CLAIMS

I/We claim:

[c1] 1. A method for forming LED, comprising the steps of:

forming an LED epitaxial layer on a provisional substrate;

etching said LED epitaxial layer to form LED chips by means of photolithography;

forming a reflecting layer on said LED chips;

forming a metal layer on said reflecting layer;

removing said provisional substrate to expose surfaces of said LED chips;

forming pads on said surfaces of said LED chips; and

separating said metal layer to form individual LED chips by means of mechanical force.

[c2] 2. The method in claim 1, wherein a material of said reflecting layer is Ag, Al, Rh, Pt, Pd, Ni, Ti, Co, Au, or the combination thereof.

[c3] 3. The method in claim 1, wherein said metal layer is formed by means of electroplating, electroless plating, chemical vapor deposition, or the combination thereof.

[c4] 4. The method in claim 1, wherein said metal layer is formed by means of a physical vapor deposition.

[c5] 5. The method in claim 4, wherein said physical vapor deposition is evaporation, sputtering deposition, or the combination thereof.

[c6] 6. The method in claim 1, wherein said provisional substrate is removed by means of polishing, etching, laser ablation, or the combination thereof.

[c7] 7. The method in claim 1, wherein a material of said metal layer is Cu, Al, Ni, Mo, W, Ag, Au, Ti, Co, Pd, Pt, Fe, or the combination thereof.

[c8] 8. The method in claim 1, wherein a thickness of said metal layer is more than 30μm.

[c9] 9. The method in claim 1, wherein a thickness of said metal layer between said every two LED chips is 5-30μm.

[c10] 10. A method for forming LED, comprising the steps of:

forming an LED epitaxial layer on a provisional substrate;

forming a reflecting layer on said LED epitaxial layer;

forming a metal layer on said reflecting layer;

etching said LED epitaxial layer, said reflecting layer, and said metal layer to form LED chips by means of photolithography;

removing said provisional substrate to expose surfaces of said LED chips; and

forming pads on said surfaces of said LED chips.

[c11] 11. The method in claim 10, wherein a material of said reflecting layer is Ag, Al, Rh, Pt, Pd, Ni, Ti, Co, Au, or the combination thereof.

[c12] 12. The method in claim 10, wherein said metal layer is formed by means of electroplating, electroless plating, chemical vapor deposition, or the combination thereof.

[c13] 13. The method in claim 10, wherein said metal layer is formed by means of a physical vapor deposition.

[c14] 14. The method in claim 13, wherein said physical vapor deposition is evaporation, sputtering deposition, or the combination thereof.

[c15] 15. The method in claim 10, wherein said provisional substrate is removed by means of polishing, etching, laser ablation, or the combination thereof.

[c16] 16. The method in claim 10, wherein a material of said metal layer is Cu, Al, Ni, Mo, W, Ag, Au, Ti, Co, Pd, Pt, Fe, or the combination thereof.

[c17] 17. The method in claim 10, wherein a thickness of said metal layer is more than 30μm.